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(74) Agent: **GIGANTE, Stephen**; Klauber & Jackson, 411 Hackensack Avenue, Hackensack, NJ 07601 (US).

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(71) Applicant (for all designated States except US): **MEMORIAL SLOAN-KETTERING CANCER CENTER** [US/US]; 1275 York Avenue, New York, NY 10021 (US).

(72) Inventors; and

(75) Inventors/Applicants (for US only): **POWELL, Michael** [US/US]; Vanderbilt Hall #159, 107 Avenue Louis Pasteur,

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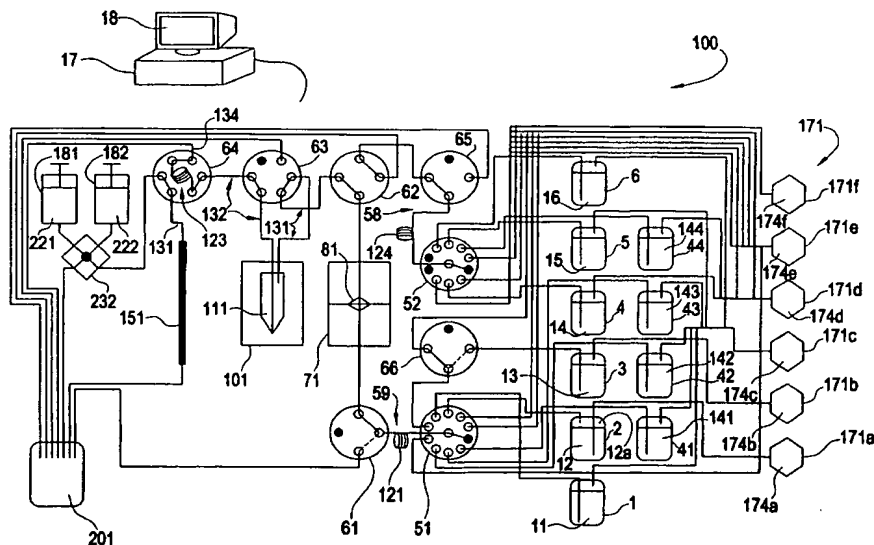
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[Continued on next page]

(54) Title: SYSTEM AND PROCESS FOR MICROFLUIDICS-BASED AUTOMATED CHEMISTRY



(57) Abstract: The invention is a chemical system and related processes that utilize small-volume rotary selector valves and small-volume rotary switching valves in combination under the control of a computer. The small rotary valves are particularly well-suited to computer control. As a result, a single system can be programmed to do a variety of tasks by changing the program but leaving the system's components substantially intact. As a result, in a general aspect the invention is a system for carrying out one or more chemical reactions such as protein sequencing, said system comprising a rotary selector valve and a rotary switching valve, each valve under the control of a computer, the internal volumes of the selector and switching valves each being 1.5 μ l or less.



— *before the expiration of the time limit for amending the claims and to be republished in the event of receipt of amendments*

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INTERNATIONAL SEARCH REPORT

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A. CLASSIFICATION OF SUBJECT MATTER

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According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

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IPC 7 B01J G01N F16K

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

PAJ, EPO-Internal, COMPENDEX, INSPEC, WPI Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DAIXIN TONG ET AL.: "Principles and applications of unified chromatography" JOURNAL OF CHROMATOGRAPHY A, vol. 703, no. 1, 26 May 1995 (1995-05-26), pages 17-35, XP004023358 NL ISSN: 0021-9673 paragraph 2.4 figure 4 --- -/--	1,15

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

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Date of the actual completion of the international search

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Name and mailing address of the ISA

European Patent Office, P.B. 5818 Patentlaan 2
NL - 2280 HV Rijswijk
Tel. (+31-70) 340-2040, Tx. 31 651 epo nl,
Fax: (+31-70) 340-3016

Authorized officer

Stevnsborg, N

INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 02/00370

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
A	<p>PATENT ABSTRACTS OF JAPAN vol. 1997, no. 07, 31 July 1997 (1997-07-31) -& JP 09 068486 A (TOYOTA CENTRAL RES & DEV LAB INC; TOYOTA MOTOR CORP), 11 March 1997 (1997-03-11) abstract -& DATABASE WPI Section Ch, Week 199720 Derwent Publications Ltd., London, GB; Class J04, AN 1997-222795 XP002228887 & JP 09 068486 A (TOYOTA CHUO KENKYUSHO K.K. & TOYOTA JIDOSHA K.K.), 11 March 1997 (1997-03-11) abstract</p> <p>---</p>	1-15
A	<p>US 5 541 114 A (JEROME M. BAILEY & JOHN E. SHIVELY) 30 July 1996 (1996-07-30) the whole document</p> <p>---</p>	1-15
A	<p>WO 00 64557 A (ADVANCED BIOANALYTICAL SERVICES, INC.) 2 November 2000 (2000-11-02) abstract; figures 1,2</p> <p>---</p>	1-15
A	<p>HANS G.J. MOL ET AL.: "Trace level analysis of micropollutants in aqueous samples using gas chromatography with on-line sample enrichment and large volume injection" JOURNAL OF CHROMATOGRAPHY A, vol. 703, no. 1, 26 May 1995 (1995-05-26), pages 277-307; XP004023368 NL ISSN: 0021-9673 figure 8</p> <p>---</p>	1-15
A	<p>US 5 695 720 A (ADRIAN P. WADE ET AL.) 9 December 1997 (1997-12-09) the whole document</p> <p>---</p>	1-15
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INTERNATIONAL SEARCH REPORT

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PCT/US 02/00370

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
T	<p>MICHAEL POWELL & PAUL TEMPST: "Microflow-Based Automated Chemistries: Application to Protein Sequencing" ANALYTICAL CHEMISTRY, vol. 73, no. 4, 19 January 2001 (2001-01-19), pages 776-786, XP001092853 AMERICAN CHEMICAL SOCIETY. COLUMBUS., US ISSN: 0003-2700 the whole document -----</p>	1-15

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